

DEPARTMENT OF AGRICULTURE,
CEYLON.

BULLETIN No. 87.

RESULTS OF TEA EXPERIMENTS:
EXPERIMENT STATION, PERADENIYA,
1914—1917.

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Peradeniya,

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DEPARTMENT OF AGRICULTURE, CEYLON.

BULLETIN No. 37.

PERADENIYA TEA PLOTS.



THE previous Circulars on the tea plots at the Experiment Station, Peradeniya, were published in 1911 and 1914, and this brings the results up to the end of 1917. Some of the plots not under permanent green manures began to show marked deterioration in the wood and frames of the bushes, although yields were fairly maintained. This is specially noticeable in the Manipuri Indigenous plot 148, adjoining the Dadap plot, which had received no green manures for years. Plots 151 to 154 under rubber also fell off rapidly in yield owing to the shade of the latter, and the tea was cut out in August, 1916. In September, 1916, plots 145 and 149 were each treated with 1,000 lb. of well-burned and slaked lime, the lime being broadcasted up every row and lightly forked in. Plots 146 to 148 and 150 each had 500 lb. of lime similarly applied.

Comparing the yields of these plots for 1915 and 1917, the year before and after application of lime and at the same period from pruning, the results are as follows. Plot 145 showed a decrease of 12 lb., and the Dadap plot an increase of 114 lb., due probably to greater amount of organic matter in this plot. Plots 146, 148, and 150 with 500 lb. of lime gave increases of 95, 30, and 85 lb., respectively. As several of the plots had received no special treatment for some years, it was decided to begin annual artificial manuring experiments to test the effect of nitrogen, phosphoric acid, and potash in combination, and of the omission of one constituent in each series.

The experiments began in July, 1917, and the following acre plots were divided into two and manured with mixtures containing one or more of the chief manurial constituents,

20 lb. of each constituent being included. Plots 141 to 143, 146 to 148 Manipuri jât (Norwood), and 155 Assam Hybrid jât, were divided and manured in duplicate :—

Plot 141, A	286 lb. Groundnut Cake	..	20 lb. Nitrogen.
Plot 146, A	50 lb. Sulphate of Potash	40	..
	per cent.	20 lb. Potash.
Plot 141, B	286 lb. Groundnut Cake	..	20 lb. Nitrogen.
Plot 146, B	50 lb. Sulphate of Potash	40	..
	per cent.	20 lb. Potash.
Plot 142, A	286 lb. Groundnut Cake	..	20 lb. Nitrogen.
Plot 147, A	111 lb. Superphosphate	..	20 lb. Phosphoric Acid.
Plot 142, B	286 lb. Groundnut Cake	..	20 lb. Nitrogen.
Plot 147, B	111 lb. Superphosphate	..	20 lb. Phosphoric Acid.
Plot 143, A	50 lb. Sulphate of Potash	..	20 lb. Potash.
Plot 148, A	50 lb. Sulphate of Potash	..	20 lb. Potash.
Plot 143, B	286 lb. Groundnut Cake	..	20 lb. Nitrogen.
Plot 148, B	111 lb. Superphosphate	..	20 lb. Phosphoric Acid.
	50 lb. Sulphate of Potash	..	20 lb. Potash.

A census of the bushes in each half-acre plot is being taken, and the yield recorded separately.

The Cora weed (*Cyperus rotunda*) has continued to give trouble, and no method of treatment has so far been completely satisfactory. Constant forking and collecting the roots and liming did good temporarily, but the weed soon returned. An experiment suggested by Mr. Beddewella to sow mustard thickly was tried in plot 155, and is being repeated. The mustard appears to have had no ill-effect on the tea. In Assam it has been found a useful green manure.

In the Dadap plot several bushes also died in the swampy area near the foot of the slope. Couch grass appeared, and was difficult to eradicate.

A new census of bushes has been taken this year, from which the yields for 1917 have been calculated to 2,722 bushes per acre.

The most marked features of the experiments since 1913 are the continued improvement in growth and yield of the original Dadap plot 149, and the plot 144 planted with Dadaps in 1912 in Assam Hybrid tea.

The permanent effect of cattle manure in plot 155 has also been most marked—the last application having been made in March, 1908, when 30 tons per acre were applied. The total actual yield from this plot since 1906 is 8,987 lb., or if calculated to 2,722 bushes per acre 11,379 lb., the area only containing

2,158 bushes. Taking bi-yearly periods since 1906, the cattle manure being applied in 1908, a practically continuous rise in yield is shown to the present time :—

	Actual Yield Made Tea, 2,158 Bushes.	Calculated to 2,722 Bushes.
	lb.	lb.
1906 and 7	.. 292	.. 387
1908 and 9	.. 990	.. 1,139
1910 and 11	.. 1,685	.. 2,175
1912 and 13	.. 1,854	.. 2,618
1914 and 15	.. 1,820	.. 2,313
1916 and 17	.. 2,146	.. 2,747

Pruning.—This is done every two years for all the plots, the Singlo and Assam Hybrid jâts being pruned in June, or the south-west monsoon, and the Manipuri Indigenous in December, or early January in the north-east monsoon. One branch has been left in the latter pruning on account of the succeeding dry weather, and removed when the bushes are ready for tipping. It will be noticed that the plots pruned in the south-west monsoon show a greater difference in yield in the pruned and unpruned years than the Manipuri Indigenous plot pruned in January. The wood in the Dadap, Albizzia, and Cattle Manure plots is very good, but some of the others show deterioration, and will require pruning down. All knots are removed as far as possible, and the cuts are made short and clean, leaving 3 inches of good wood.

The recovery generally is normal, taking from 82 to 94 days with the south-west pruning, and was about the same in 1918 for the Manipuri Indigenous, owing to the prolonged drought from January 24 to March 25. No bushes died out, possibly due to the live branch, which continued flushing through the whole season.

Plucking has been as usual to the whole leaf, with the result that at the time of pruning the bushes are full of leaf, giving a large amount of material for mulching and increasing the humus in the soil. The prunings from 20 bushes on the Dadap plot taken from the upper slope were weighed fresh and gave 273 lb., of which 150 lb., or 55 per cent., were woody branches and 123 lb., or 45 per cent., leaves and small twigs. Calculated to 2,722 bushes per acre, the total weight of prunings would be 37,155 lb., or approximately 16·5 tons, of which

7·4 tons are leafy material. This may be compared with a previous experiment on the same plot in December, 1913, when 32,000 lb., or 14·38 tons, of prunings were obtained, of which 5·89 tons were leafy material.

The analyses of the prunings were published in Bulletin No. 9 of May, 1914, and from these figures the amount of nitrogen and mineral matter returned to the soil in the prunings of two years' growth would be approximately as follows, calculated on the actual number of bushes in the plot, viz., 2,114, or 77 per cent., of an acre planted 4 feet by 4 feet:—

	lb.	
Nitrogen in fresh leaves and twigs at 1·16 per cent.	..	143·93
Nitrogen in woody material at 48 per cent.	..	78·94
Total Nitrogen	..	222·87

The ash amounts to 2·57 per cent. on the whole prunings, or 741·6 lb. for the plot, containing approximately—

	lb.		lb.
Lime	.. 181·6	Potash	.. 75·7
Magnesia	.. 70·5	Phosphoric Acid	.. 35·6

This is returned to the soil as the prunings decay, none of the wood being removed.

To determine whether nitrogen was lost by the tea leaves drying on the surface, analyses were made of the half-withered leaf, dry leaves one month, and three months old, and gave 1·61, 1·96, and 2·13 per cent., respectively. In addition to the nitrogen in the prunings returned to the soil, there is the amount contained in the Dadap loppings, which weighed 18,051 lb. during the two years 1916 and 1917. This at 0·82 per cent. on the fresh material is 148 lb. of nitrogen returned to the soil for the two years, or with the prunings a total of 371 lb. The weight of tea actually removed in the same period is 2,774 lb., which contains approximately—

proximately—	lb.		lb.
Nitrogen ..	138·7	Potash ..	83·2
Lime ..	22·2	Phosphoric Acid ..	22·2
Magnesia ..	11·1		

The phosphoric acid is to a large extent replaced by the basic slag, but an excess of 53 lb. of potash is removed from the soil over the amount supplied in the pruning mixture.

The continued increase of crop from this plot and the fine condition of the bushes tend to show that potash in excess is not required, and that the more vigorous growth enables the roots to obtain sufficient from the soil and the decaying prunings forked in the alternate lines.

The total weight of green material obtained from the Dadaps since 1904 was 127,091 lb., containing approximately 1,074 lb. of nitrogen, worth about Rs. 559 at 52 cents per lb. The average annual quantity is 9,622 lb., containing 82·6 lb. nitrogen. The total yield of tea from the Dadap plot during the same period 1906 to 1917 is 12,875 lb., containing about 644 lb. of nitrogen, leaving a surplus in the soil and bushes of 130 lb. Although equally satisfactory results could probably not be obtained on a large scale on estates, the advantages and economy of green manuring with Dadap on suitable soil and climate is fully demonstrated, and so far it would appear that permanent improvement is being effected at a minimum cost.

Presuming that only 50 per cent. of the Dadap nitrogen is obtained from the air, the nitrogen gained to the soil would be worth about Rs. 48·50 per acre every two years, while to apply the whole of the nitrogen in the Dadap loppings and prunings as groundnut cake would cost Rs. 259.

Comparing plot 146 (with no green manure) and plot 149 Dadaps, and plot 150 Albizzia, the total yields since 1906 are :—

	Plot 146. No Green Manure. lb.	Plot 149. Dadaps. lb.	Plot 150. Albizzia. lb.
Made tea, 1906 to 1917 ..	10,076 ..	12,875 ..	13,584
Increase ..	— ..	2,799 ..	3,508

As the Albizzia plot is considerably over one acre and contains 3,094 bushes, against 2,114 bushes in 149 and 2,315 bushes in 146, comparison can only be made by calculating to a standard of 2,722 bushes per acre (planted 4 feet by 4 feet).

	Plot 146. lb.	Plot 149. lb.	Plot 150. lb.
Total yields, 1906 to 1917 ..	11,965 ..	16,160 ..	11,826
Average for twelve years ..	997 ..	1,346 ..	985

This shows an average annual increase of 349 lb. per acre on the Dadap plot. The cost of the basic slag and sulphate of potash applied at each pruning (two years) was approximately Rs. 10·30 per acre, or Rs. 62 for the twelve years.

With the cost of forking and application at Rs. 4·70 per acre and three loppings at Re. 1·10, the average cost of cultivation would be approximately Rs. 8 per acre per annum.

Similar experiments with the prunings were made on the Albizzia plot, No. 150, twenty bushes being used on the steep area and twenty on the flat.

The weights obtained were :—

	On Steep Slope. lb.	Per- centage.	On Flat Area. lb.	Per- centage.
Woody branches ..	143½ ..	57 ..	98 ..	55
Leaves and twigs ..	105½ ..	43 ..	78 ..	45
Total ..	249		176	

The average weight of prunings from the whole area of 3,094 bushes would be :—

	lb.
Woody branches ..	18,641
Leaves and twigs ..	14,155
Total weight ...	32,796 or 14·6 tons

The Albizzias planted 25 feet by 25 feet in 1904 at the same time as the Dadaps have yielded 51,228 lb. of green material during twelve years' actual lopping, or an average of only 4,269 lb., supplying about 34 lb. of nitrogen per annum, compared with 9,622 lb. from the Dadap plot, supplying 82·6 lb. of nitrogen per annum.

The total yield of tea from the plot during the same period is 13,484 lb., or 1,123 lb. per annum, but calculated to one acre the average yield is about 985 lb.

Weeding.—This was carried out monthly at a cost of Re. 1·25 per acre.

Diseases.—Shot-hole borer has increased in recent years, especially below the jungle in the Dadap and Albizzia plots, but the proportion of bushes on which branches are destroyed is slight. Experiments on painting the pruned branches with various oil and soap emulsions have been begun.

Census of bushes.—The present census of bushes for the plots for 1918 is as follows :—

Plot 141, A ..	935 }	1,900 Singlo Indigenous	..	Artificials
Plot 141, B ..	965 }			
Plot 142, A ..	989 }	2,054 Singlo Indigenous	..	Artificials
Plot 142, B ..	1,065 }			
Plot 143, A ..	955 }	1,838 Singlo Indigenous	..	Artificials
Plot 143, B ..	883 }			
Plot 144 ..	2,286 ..	Assam Hybrid	..	Dadaps
Plot 145 ..	2,460 ..	Assam Hybrid	..	Control
Plot 146, A ..	1,153 }	2,315 Manipuri Indigenous	..	Artificials
Plot 146, B ..	1,162 }			
Plot 147, A ..	1,024 }	2,167 Manipuri Indigenous	..	Artificials
Plot 147, B ..	1,143 }			
Plot 148, A ..	1,009 }	2,168 Manipuri Indigenous	..	Artificials
Plot 148, B ..	1,163 }			
Plot 149 ..	2,114 ..	Manipuri Indigenous	..	Dadaps
Plot 150 ..	3,094 ..	Manipuri Indigenous	..	Albizzias
Plot 155, A ..	1,144 }	2,158 Assam Hybrid	..	Cattle Manure
Plot 155, B ..	1,014 }			

Rainfall.—The following table gives details regarding rainfall during the four years 1914 to 1917 :—

Table showing the Monthly Rainfall and number of Wet Days from 1914 to 1917, inclusive.

	1914.		1915.		1916.		1917.	
	Inches.	Wet Days.	Inches.	Wet Days.	Inches.	Wet Days.	Inches.	Wet Days.
Jan ..	2·20	8	9·40	14	·49	2	5·83	12
Feb. ..	0·33	3	4·17	3	—	—	6·12	13
March ..	4·56	10	1·85	6	10·64	13	6·49	17
April ..	5·87	11	5·57	9	8·10	9	2·15	6
May ..	4·83	10	2·76	8	7·30	10	4·63	3
June ..	12·47	27	9·10	13	13·67	20	10·24	14
July ..	5·17	17	12·84	20	12·53	26	6·40	13
August ..	5·71	11	5·10	13	4·69	16	9·95	15
Sept. ..	7·60	16	10·07	16	6·67	16	15·04	19
Oct. ..	11·87	25	5·88	10	6·77	19	9·63	13
Nov. ..	7·41	19	12·21	27	9·16	14	16·49	18
Dec. ..	14·70	21	8·64	14	4·04	10	6·49	13
Total ..	82·72	178	87·59	153	84·06	155	99·46	156

April 30, 1918,

M. KELWAY BAMBER.

TABLES GIVING DETAILS OF YIELDS.

Actual Yield of Green Leaf per Plot during 1914, 1915, 1916, and 1917.

Year.	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	151.	152.	153.	154.	155.	Total.	
	Singlo Indigenous.			Assam Hybrid (Horagaia).		Manipuri Indigenous (Kotiyagala and Norwood).										Assam Hybrid.	Total.
1914.	3200	3733	3075	4391	5256	4131	4004	3947	5108	5095	2296	2131	2485	2306	5257	56415	
1915.	1790½	1864	1725	2901	3057½	4638	4273	3752	3970	3789	1082	1012	1118	1129	2299	42864	
1916.	3283	4014	3336½	4553½	5260	5918½	3403	4739½	6083	6083	1084	970	878	895	5340½	50906	
1917.	2028	2242	2067	3140	3016	5526	4986	3894	6761	6127	—	—	—	—	—	42835	

Yields of made Tea during the Years 1914, 1915, 1916, and 1917, made Tea being estimated at 24.15 Per Cent. of the Fresh Leaf.

Year.	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	151.	152.	153.	154.	155.	Rainfall.
	Soluble Manure Mixture 100 lb.			Dapdaps planted, 1912.		Crotalaria.		Crotalaria.	Madap Plot.	Albizia Plot.	Crotalaria, 1910.				Cattle Manure.	Rainfall.
1914	774	900	742	1080	1269	1000	968	951	1235	1226	552	515	600	556	1271	82.72
1915	432	439	412	701	740	1118	1038	910	1518	1394	248	243	270	267	549	87.59
1916	792	976	814	1105	1272	940	980	826	1142	1228	265	234	212	216	1290	84.06
1917	400	543	403	758	728	1213	1106	940	1032	1470	—	—	—	—	869	99.36

Yields of made Tea during the Years 1914, 1915, 1916, and 1917, calculated to 2,722 Bushes per Acre, planted 4 feet by 4 feet.

Year.	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	151.	152.	153.	154.	155.	Rainfall.
	Soluble Manure Mixture 100 lb.	Soluble Manure Mixture 100 lb. Indigotera Plot.	Prunings buried.	Dadaps planted, 1912.			Crotalaria.	Crotalaria.	Dadap Plot.	Albizia Plot.	Crotalaria, 1910.				Cattle Manure.	
No. of Bushes	1899	2054	1838	2286	2460	2315	2167	2168	2114	3094	—	—	—	—	2158	—
1914	..	1102	1339	1075	1344	1186	1261	1265	1576	1068	915	830	1154	984	1644	82.72
1915	..	615	672	604	784	1326	1347	1210	1938	1215	411	398	619	472	710	87.59
1916	..	1127	1443	1178	1617	1115	1237	1098	1458	1070	439	390	407	382	1668	84.06
1917	..	702	722	738	806	1426	1389	1180	2101	1301	—	—	—	—	1079	99.46

Table showing the Monthly Yield of Green Leaf; Number of Bushes in Bearing; and Dates of Pruning, Tipping, and Manuring in each Plot.

Number of Acres ..	141.	142.	143.	Assam Hybrid.		146.	Manipuri Indigenous.			151.	152.	153.	154.	155.	Total.	Rainfall.	
				144.	145.		147.	148.	149.								150.
(ft of Bushes) ..	Singlo.			Assam Hybrid.			Manipuri Indigenous.			Singlo.			Assam Hybrid.				
Bearing: ..	1012	1829	1880	1850	2540	2904	2930	2948	2132	8153	1642	1672	1415	1638	2104	30103	
1918 ..	1919	2004	1987	2203	2592	2245	2982	2157	2239	8137	1623	1773	1964	1860	2158	33382	
Inches.																Inches.	
Days.																Days.	
January ..	251	262	219	277	243	145	145	147	923	193	239	224	212	227	886	2368	
February ..	265	298	136	237	261	105	137	104	147	139	115	120	168	136	248	2368	
March ..	262	298	136	237	261	105	137	104	147	139	115	120	168	136	248	2368	
April ..	403	483	400	520	641	354	337	330	429	338	205	198	205	159	331	6265	
May ..	893	480	402	435	613	317	390	324	411	346	303	301	298	206	555	6706	
June ..	269	332	237	346	563	414	461	483	668	514	199	164	180	215	400	4342	
July ..	269	332	237	346	563	414	461	483	668	514	199	164	180	215	400	4342	
August ..	209	253	204	344	414	438	406	414	562	565	116	116	147	145	427	4977	
September ..	257	315	293	436	457	604	899	890	479	518	159	100	248	238	619	6641	
October ..	278	313	275	423	523	459	449	993	528	569	128	125	160	144	441	4633	
November ..	189	212	176	242	314	435	855	933	469	648	101	101	133	134	343	4176	
December ..	189	212	176	242	314	435	855	933	469	648	101	101	133	134	343	4176	
Total ..	3200	3733	3075	4391	5256	4131	4004	3047	5108	5095	2296	2131	2465	2306	9557	56415	
Pruned ..	14/6/13	16/5/13	20/5/13	11/7/13	16/7/13	1/2/13	4/12/13	9/12/13	15/2/13	25/2/13	22/5/13	24/5/13	30/7/13	25/7/13	29/7/13	—	—
Thinned ..	14/6/13	16/5/13	20/5/13	11/7/13	16/7/13	1/2/13	4/12/13	9/12/13	15/2/13	25/2/13	22/5/13	24/5/13	30/7/13	25/7/13	29/7/13	—	—
Unpruned ..	13/6/13	13/6/13	16/6/13	12/8/13	13/8/13	17/14	6/9/14	12/3/14	20/7/14	10/7/14	23/6/13	24/6/13	25/8/13	27/8/13	28/8/13	—	—

Table showing the Monthly Yield of Green Leaf; Number of Bushes in Bearing; and Dates of Pruning, Tipping, and Manuring in each Plot.

1915.

Number of Plot	Singlo Indigenious.			Assam Hybrid.			Manipuri Indigenious.			Sinclo.			Assam Hybrid.			Total.	Rainfall.	
	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	151.	152.	153.	154.	155.			
Jkt of Bushes in Bearing	Singlo Indigenious.			Assam Hybrid.			Manipuri Indigenious.			Sinclo.			Assam Hybrid.			Total.	Inches.	
1912	1829	1880	1887	1859	2569	2245	2089	2046	2132	3122	1642	1672	1415	1538	2104			
1913	2004	1867	1867	2255	2592	2245	2082	2157	2239	3137	1633	1779	1964	1869	2168			
January	109	121	127	290	193	283	279	240	497	419	55	53	78	90	278	3037	9.40	
February	109	156	120	209	248	391	358	339	562	513	124	108	141	133	257	3905	4.17	
March	169	193	146	276	206	412	349	296	465	467	124	124	165	144	233	3859	1.85	
April	162	180	144	231	266	403	364	338	593	590	133	126	147	141	233	5219	5.77	
May	217	125	173	243	253	351	318	301	428	433	78	78	109	108	217	3318	9.10	
June	16	155	102	190	227	434	389	314	594	519	29	20	88	60	216	3083	12.84	
July	—	—	—	—	—	293	286	192	403	387	—	—	—	—	—	—	1604	5.10
August	123	81	16	19	13	321	389	313	411	523	35	25	97	24	—	2271	5.86	
September	283	272	333	368	432	386	337	346	562	432	160	205	56	168	—	4533	12.21	
October	383	383	373	477	542	321	290	215	523	302	142	140	130	104	289	4617	8.64	
November	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
December	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1760	1866	1725	2901	3937	4616	4274	3752	6270	5786	1022	1012	1118	1129	2260	42588	87.50	153
Pruned	21/6/15	25/6/15	28/6/15	7/7/15	10/7/15	4/1/16	7/1/16	13/1/16	18/1/16	26/1/16	1/7/16	4/7/16	17/7/15	20/7/15	23/7/15	—	—	—
Tipped	27/9/15	27/9/15	28/9/15	30/9/15	30/9/15	16/8/16	17/8/16	18/8/16	20/8/16	22/8/16	2/8/16	6/8/16	13/8/16	15/8/16	14/8/16	—	—	—
Manured	31/7/15	2/8/16	3/8/15	9/8/15	10/8/15	16/8/16	17/8/16	18/8/16	20/8/16	22/8/16	2/8/16	6/8/16	13/8/16	15/8/16	14/8/16	—	—	—

Table showing the Monthly Yield of Green Leaf; Number of Bushes in Bearing; and Dates of Pruning, Tipping, and Manuring in each Plot.

1916.

Number of Plot	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	151.	152.	153.	154.	155.	Total.	Rainfall.
Jat of Bushes	Singlo.			Assam Hybrid.			Manipuri Indigenious.			Singlo.			Assam Hybrid.				
Bushes In																Inches.	Days.
1912-1913	1912	1913	1912	1912	1913	1912	1912	1913	1912	1913	1912	1913	1912	1913	1912		
January	118	185	148	176	210	195	174	140	820	165	102	64	138	121	356	2607	49
February	228	225	161	184	231	62	59	166	182	163	81	93	69	126	126	1804	13
March	529	240	229	252	304	130	128	106	132	183	81	93	102	147	588	5011	810
April	429	650	469	541	850	194	193	203	308	323	259	208	192	137	588	4928	1307
May	598	456	384	372	539	597	847	326	401	396	138	121	101	102	518	4928	1307
June	333	409	360	561	573	832	582	494	615	706	74	60	54	68	522	4533	1253
July	212	269	217	310	403	554	534	475	638	795	—	—	—	—	476	5104	607
August	262	307	250	410	403	554	534	475	638	795	—	—	—	—	476	5104	607
September	209	217	209	310	389	377	459	473	349	539	517	—	—	—	402	4218	677
October	218	269	217	310	389	377	459	473	349	539	517	—	—	—	402	4218	677
November	209	217	209	313	339	437	452	394	604	634	—	—	—	—	478	4307	906
December	209	217	209	313	339	437	452	394	604	634	—	—	—	—	478	4307	906
Total	3293	4014	3336	4503	5260	3882	3632	3405	4726	5081	1084	970	878	895	5340	50680	8406
Pruned	21/6/15	25/9/15	28/6/15	7/7/15	10/7/15	4/1/16	7/1/16	13/1/16	18/1/16	26/1/16	1/7/15	4/7/15	17/7/15	20/7/15	23/7/15	—	—
Tipped	27/9/15	27/9/15	30/9/15	30/9/15	30/9/15	16/3/16	17/3/16	18/3/16	20/3/16	22/3/16	28/9/15	29/9/15	13/10/15	13/10/15	23/10/15	—	—
Manured	31/7/15	2/8/15	3/8/15	9/8/15	10/8/15	16/3/16	17/3/16	18/3/16	20/3/16	22/3/16	6/8/15	8/8/15	11/8/15	12/8/15	14/8/15	—	—

Table showing the Monthly Yield of Green Leaf; Number of Bushes in Bearing; and Dates of Pruning, Tipping, and Manuring in each Plot.

1917.

Number of Plot ..	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	155.	Rainfall.		
												Total.	Inches.	Days.
List of Bushes ..	Singlo.			Assam Hybrid.		Manipuri Indigenious.					Assam Hybrid.		Total.	
Bushes in { 1912 ..	1912	1920	1880	1859	2569	2204	2080	2046	2132	3122	2104	2104		
Bearing { 1913 ..	1913	2004	1867	2255	2562	2245	2082	2157	2239	3137	2158	2158		
Bearing { 1917 ..	1899	2054	1838	2286	2400	2315	2107	2198	2114	3094	2168	2168		
January ..	192	138	111	167	162	268	256	267	271	329	271	2362	5.83	12
February ..	177	185	168	292	271	392	404	349	503	486	339	3913	6.12	13
March ..	284	331	351	513	522	538	544	433	715	630	501	5256	6.19	17
April ..	239	359	331	516	471	488	513	434	724	721	486	5107	4.63	9
May ..	232	275	311	419	425	537	558	438	724	721	486	5107	4.63	9
June ..	160	232	248	478	450	535	524	361	573	571	406	4638	10.24	14
July ..	—	—	—	—	70	358	365	327	463	433	189	2180	8.40	13
August ..	—	—	—	—	—	402	358	304	511	396	—	1719	15.04	19
September ..	173	168	115	153	53	287	310	184	508	296	62	2299	9.63	13
October ..	220	212	188	316	319	503	460	276	565	372	324	3813	18.49	18
November ..	321	312	253	316	273	396	394	271	500	715	302	4113	6.49	13
December ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total ..	2018	2242	2087	3140	3016	5026	4996	3894	6761	6127	3548	42835	99.46	156
Pruned ..	12/6/17	15/6/17	23/6/17	29/6/17	5/7/17	—	—	—	—	—	—	14/7/17	—	—
Tipped ..	14/6/17	17/9/17	18/9/17	19/9/17	28/9/17	—	—	—	—	—	—	4/10/17	—	—
Manured ..	9/5/17	13/5/17	13/5/17	—	—	11/9/17	11/9/17	11/9/17	—	—	—	—	—	—

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